

**Testimony of**

**TPI Composites, Inc.**

**(a member of the American Wind Energy Association)**

**before the**

**House of Representatives**

**Select Committee on Energy Independence and Global Warming**

**The Honorable Edward J. Markey, Chairman**

**“Renewing America’s Future: Energy Visions of Tomorrow, Today”**

**July 31, 2008**

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Good morning. Chairman Markey, Mr. Sensenbrenner, Members of the Committee, thank you for the chance to join you this morning to talk about a tremendous opportunity to renew America's future through the creation of U.S. manufacturing jobs to supply the rapidly expanding wind energy industry.

I am appearing before this committee as the President and CEO of TPI Composites and as a corporate member of the American Wind Energy Association (AWEA). TPI is a manufacturer of blades for leading wind turbine makers including GE Energy and Mitsubishi Power Systems. With 1,800 employees, TPI is headquartered in Scottsdale, Arizona and operates factories in Rhode Island, Ohio, Mexico, China, and most recently in Newton, Iowa, formerly the home of Maytag appliance manufacturing.

Wind energy has now moved into the mainstream of U.S. electricity generation. The U.S. currently boasts more than 18,000 megawatts of wind generating capacity spanning 34 states and producing enough electricity to power 5 million homes. For three consecutive years, wind has been second only to natural gas as a source of new electrical capacity. Wind represented 35 percent of all new U.S. electrical generation equipment installed in 2007 and generated \$9 billion of U.S. commerce.

The dramatic recent growth in the wind industry is just the beginning. Today, wind electricity accounts for a little over 1% of the nation's generation capacity. But, the opportunity for wind is significant. According to a May U.S. Department of Energy

report wind power could provide 20% of U.S. electricity needs by the year 2030. It is estimated that meeting this goal from wind would:

- Create 500,000 U.S. jobs
- Reduce by nearly 50% the current electric sector gas consumption
- Provide a critical contribution to the climate solution, reducing greenhouse pollution equivalent to taking 140 million vehicles off the road
- Reduce cumulative water consumption in the electric sector by 8%, significant portions coming from the arid states of the interior west

With this potential growth in wind comes a tremendous opportunity to create a complete supply chain. Wind turbines are made up of thousands of component parts, most of which are assembled into a major component called the nacelle, the large box containing the generator that sits at the top of a wind turbine tower. A nacelle assembly plant can be expected to purchase parts from some 400 sub-suppliers. Additional large components such as composite wind blades and steel towers should be fabricated in the same region as the wind farm sites in order to manage very expensive transportation costs.

Since January 2007, 28 new wind industry manufacturing plants have opened or been announced in 15 states including Arkansas, California, Colorado, Idaho, Illinois, Iowa, Michigan, Montana, Nebraska, New York, North Carolina, Oklahoma, South Dakota, Texas and Wisconsin.

By the end of this year, the U.S. will have at least eight different wind blade manufacturers with a total of eleven U.S. manufacturing locations employing over 5,000 people. In 2005 there were only two U.S. facilities.

The wind power supply chain is also spurring an expansion in demand for raw materials and manufactured parts from other industries. Suppliers to the automotive and other heavy-equipment industries, such as foundries and fabricators, are now providing metal castings and machining for wind turbines. Nearly all of the raw materials we use in blades, including fiberglass fabrics and resin, come from U.S. plants as well.

States such as Iowa and Pennsylvania have been quick to seize the wind opportunity, creating task forces and plans to capture wind component manufacturing. Massachusetts and Texas have landed important wind blade test facilities. Since 2005, Iowa alone has brought half-a-dozen wind energy companies and thousands of new jobs to its state.

The combination of explosive growth in the wind industry and states that have been aggressive in assisting companies locate in the U.S. has created market and manufacturing opportunities for TPI and its partners that did not exist a few years ago.

TPI selected Iowa for a blade plant because of its ability to serve the North Central region of the U.S. wind market. We chose Newton specifically due to the available skilled work force and the support provided by the local community. Newton is a city of 15,800 residents, located 35 miles east of Des Moines. For many years, Maytag manufactured

washers and dryers and maintained its corporate headquarters in Newton, employing 3,500 at its peak. After being acquired by Whirlpool in 2006, plans were made to consolidate manufacturing into existing facilities in Ohio and Mexico. The remaining 1,900 employees in Newton lost their jobs, the last on October 25, 2007.

TPI announced plans one month later to open a wind blade manufacturing facility in Newton. We committed to create a minimum of 500 jobs to manufacture blades for our customer GE Energy. Construction of our new 316,000 square foot building is nearly complete. We currently have about 100 employees and are adding to our team at a rate of 15-20 people per week.

The impact that TPI has had on the Newton community and economy, according to its mayor Charles Allen, was to add jobs at a crucial time, paying competitive wages and providing great benefits to many who, just months earlier, were questioning their ability to stay and work in the area. Allen also noted that TPI primed the pump causing other wind turbine related companies to consider Newton. In April 2008, Trinity Structural Towers committed to adding 140 jobs to Newton to build towers for wind turbines. The wind energy industry has restored a sense of hope to this manufacturing community. The value of this is immeasurable.

Now let me move to some of the challenges and opportunities facing the wind blade business. Today's wind blades are very large composite structures measuring 100 to 150 feet in length and weighing 10,000 to 20,000 pounds each. As you might imagine,

transportation of such large components is expensive and challenging. Trucking blades requires special permits, dedicated trailers and expensive escorts. This high transportation cost creates an opportunity to create sustainable U.S. manufacturing jobs, that cannot be easily moved offshore.



The cost metric that matters most in our business is the total delivered cost to the wind farm site, including the cost of transportation. With the growth of wind farms in the central U.S. corridor, it made sense for TPI to manufacture blades in that region to cost-effectively serve a multi-state regional market. Other regions of the country, including the Pacific Northwest, the Southwest, the South Central U.S. and the Northeast, provide similarly attractive opportunities.

However, competing with Mexico, China and even Brazil in wind blades is difficult. It comes down to a tradeoff between labor cost, transportation cost and incentives, if any are available. Community, county, state and federal incentives in the form of training grants, building buy-downs, and other meaningful cash incentives at the front end of these projects can make a big difference in the project return on investment and, in many cases, are required to get a U.S. blade plant approved. Further gains in manufacturing productivity will help U.S. plants remain cost effective over time as well.

Another critical need for U.S. competitiveness in wind blades is for the volume to be high and, most importantly, to remain stable. It is impossible for U.S. blade plants to be competitive when demand swings up and down on an annual basis.

While there are challenges in the current supply chain, the opportunity to fulfill the wind energy industry potential is too important and too large for the U.S. not to forge ahead. Our work is not yet done. To achieve this desired economic and energy growth, the U.S. will need to surmount important challenges: planning and building transmission lines, providing stable federal policy support, reducing capital cost and continuing to build wind turbine manufacturing capacity.

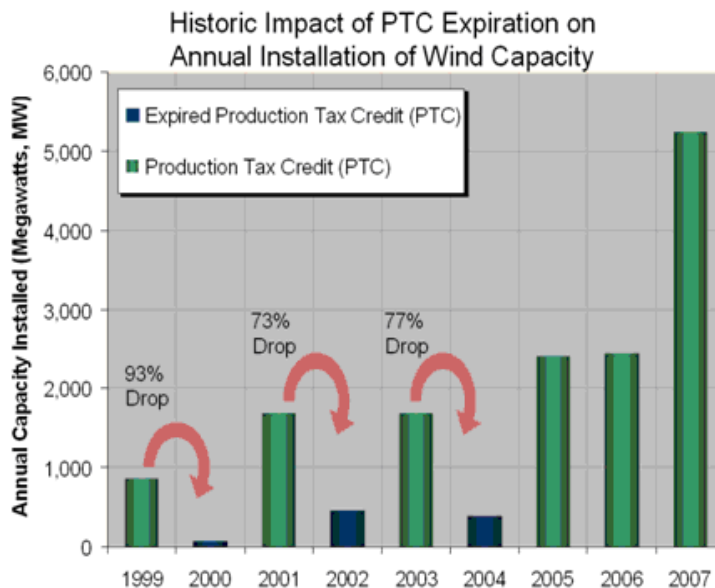
Federal policies needed to significantly advance wind energy & reduce climate change include:

- An immediate, full-value extension of the wind energy Production Tax Credit (PTC)
- A national Renewable Electricity Standard, requiring a significant percentage of American electricity to be generated by renewables
- A national electric transmission plan designed to promote renewable energy
- Climate Change legislation that provides value for generation of clean renewable energy

No major technological breakthroughs are needed to achieve the 20% wind vision by 2030. However, increases in federal R&D funding and related appropriations to spur

continuing innovation will be needed to bring down capital costs and increase turbine performance. Support of improvements in reliability, systems integration, siting, education and work force development are all high priority initiatives that should be included in the federal wind program. For FY 2008, the DOE wind program received a mere \$49.5 million, less than 3% of the total DOE budget on electricity related R&D. AWEA is requesting growth in the federal wind program to a minimum of \$120 million per year which, when combined with available state and industry cost-share programs, will provide the necessary support.

Wind energy has been a source of important economic growth over the past three years. But, the outlook for 2009 is bleak due to the pending expiration of the PTC. This tax credit has expired three times since 1999 leading, in each case, to dramatic declines (70 to 90 percent) in new wind power development.





Already the delay in extending the renewable energy credits is reducing investment in wind energy projects scheduled to come on line in 2009. Investors want to know what tax policies will apply before they commit to projects for the next calendar year. A study by Navigant Consulting concluded that expiration of the tax credits would place at risk 76,000 wind industry jobs and more than \$11 billion in clean energy investment.

A long-term PTC extension will:

- Enable the wind industry to continue its rapid growth as we chart a course to providing 20% or more of our nation's electricity from wind by 2030
- Generate higher volume and more stability in demand - the lifeline to any successful manufacturing operation
- Provide investors with the confidence needed to fund new regional manufacturing facilities, which will create more cost-effective U.S. plants, which will, in turn, create stable U.S. manufacturing jobs

There is broad support across the political spectrum for extending the credit. It is absolutely critical that this Congress act quickly to find a way through the current impasse and enact a full-value, long-term extension of the PTC. This is the starting point for U.S. job creation, a healthier economy and a cleaner energy future.

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